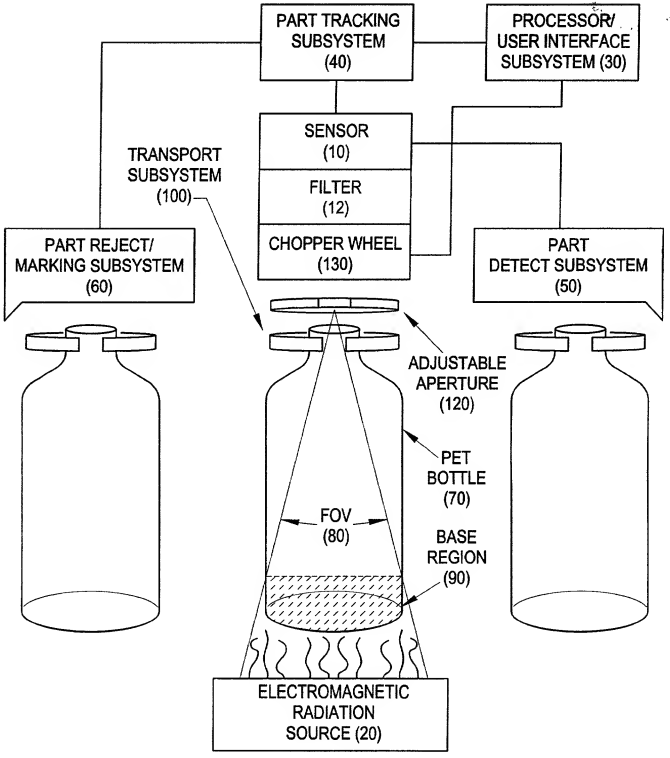

PART TRACKING SUBSYSTEM (40)
PROCESSOR/ USER INTERFACE SUBSYSTEM (30)
SENSOR (10)
FILTER (12)
CHOPPER WHEEL (130)
TRANSPORT SUBSYSTEM (100)
PART REJECT/ MARKING SUBSYSTEM (60)
PART DETECT SUBSYSTEM (50)
ADJUSTABLE APERTURE (120)
PET BOTTLE (70)
FOV (80)
BASE REGION (90)
ELECTROMAGNETIC RADIATION SOURCE (20)

FIG. 1A

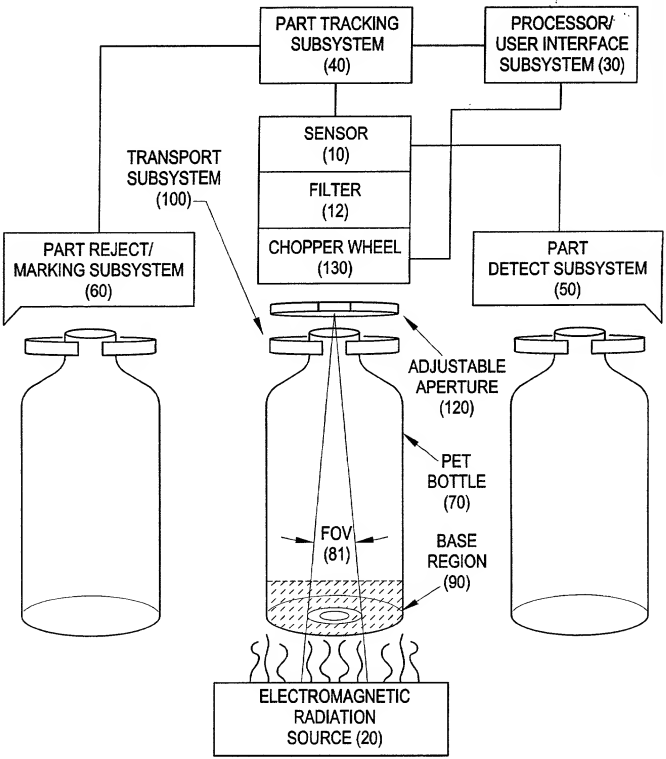

PART TRACKING SUBSYSTEM (40)
PROCESSOR/ USER INTERFACE SUBSYSTEM (30)
SENSOR (10)
FILTER (12)
CHOPPER WHEEL (130)
TRANSPORT SUBSYSTEM (100)
PART REJECT/ MARKING SUBSYSTEM (60)
PART DETECT SUBSYSTEM (50)
ADJUSTABLE APERTURE (120)
PET BOTTLE (70)
FOV (81)
BASE REGION (90)
ELECTROMAGNETIC RADIATION SOURCE (20)

FIG. 1B

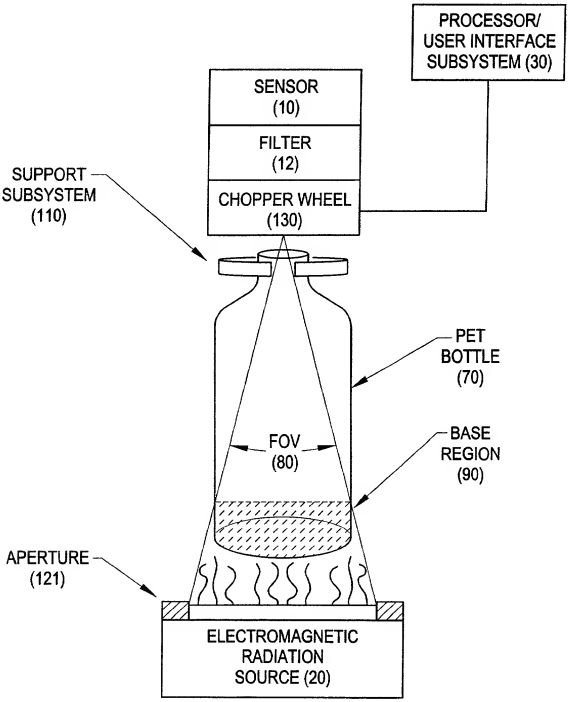

PROCESSOR/
USER INTERFACE
SUBSYSTEM (30)
SENSOR
(10)
FILTER
(12)
CHOPPER WHEEL
(130)
SUPPORT
SUBSYSTEM
(110)
PET
BOTTLE
(70)
FOV
(80)
BASE
REGION
(90)
APERTURE
(121)
ELECTROMAGNETIC
RADIATION
SOURCE (20)

FIG. 1C

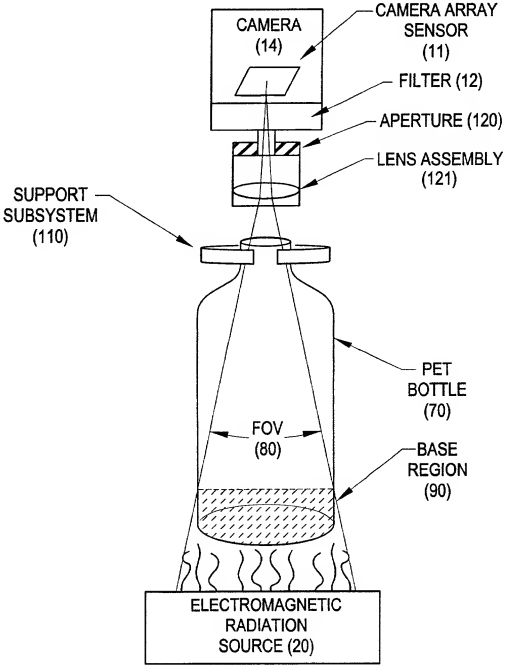

CAMERA
(14)
CAMERA ARRAY
SENSOR
(11)
FILTER (12)
APERTURE (120)
LENS ASSEMBLY
(121)
SUPPORT
SUBSYSTEM
(110)
PET
BOTTLE
(70)
FOV
(80)
BASE
REGION
(90)
ELECTROMAGNETIC
RADIATION
SOURCE (20)

FIG. 2

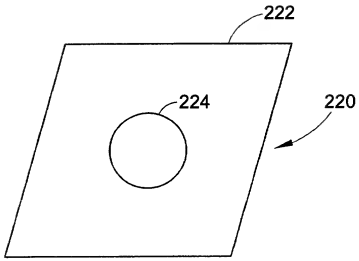


FIG. 3A

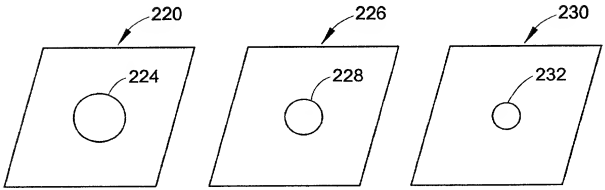


FIG. 3B

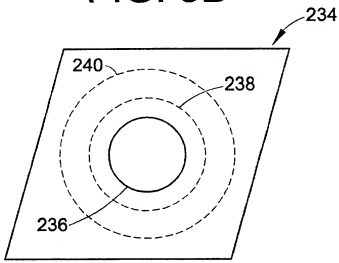


FIG. 3C

FIG. 3D

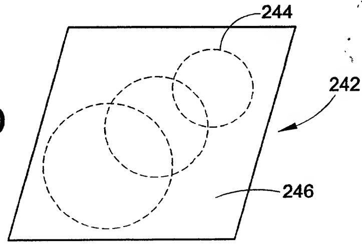


FIG. 4A

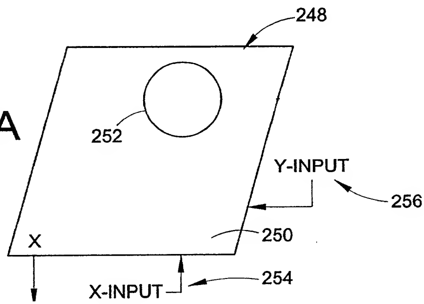
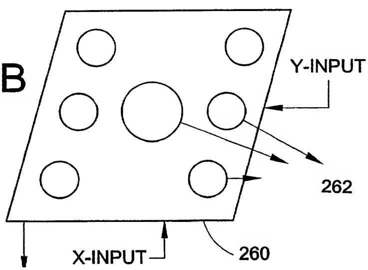


FIG. 4B



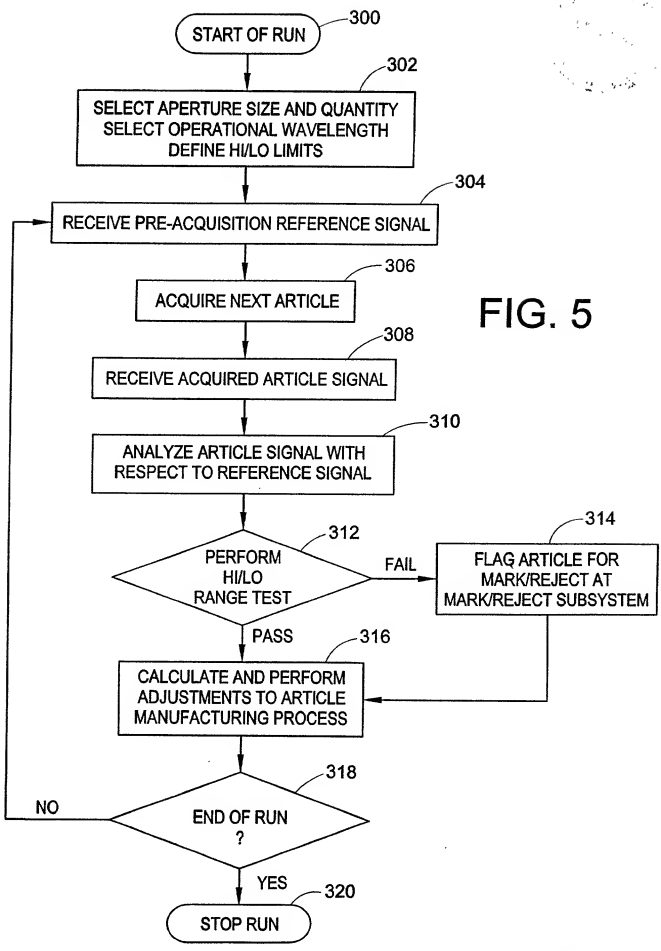

START OF RUN
300
SELECT APERTURE SIZE AND QUANTITY
SELECT OPERATIONAL WAVELENGTH
DEFINE HI/LO LIMITS
302
RECEIVE PRE-ACQUISITION REFERENCE SIGNAL
304
ACQUIRE NEXT ARTICLE
306
RECEIVE ACQUIRED ARTICLE SIGNAL
308
ANALYZE ARTICLE SIGNAL WITH RESPECT TO REFERENCE SIGNAL
310
PERFORM HI/LO RANGE TEST
312
FAIL
FLAG ARTICLE FOR MARK/REJECT AT MARK/REJECT SUBSYSTEM
314
PASS
CALCULATE AND PERFORM ADJUSTMENTS TO ARTICLE MANUFACTURING PROCESS
316
END OF RUN ?
318
NO
YES
STOP RUN
320

FIG. 5